

## Claims

1. A method of immobilizing a polymer hydrogel on the surface of a polymer substrate, whereby a composition containing at least one hydrogel-forming polymer and at least one  
5 non-toxic photoinitiator compound is applied to the surface of a polymer substrate to form a hydrogel layer at least in areas, and then the hydrogel layer is subjected to treatment with electromagnetic radiation, so that the hydrogel is immobilized on the surface of the polymer substrate, forming a hydrogel layer.
- 10 2. The method in Claim 1, whereby electromagnetic radiation in the ultraviolet to visible range of the spectrum, preferably in the range from 170 nm to 600 nm, is used for immobilization.
3. The method in Claim 1 or 2, whereby the hydrogel-forming polymer is  
15 polyvinylpyrrolidone-based, polyalkylene-glycol-based, polyvinyl-alcohol-based, polyethylene-imine-based or polyvinyl-amine-based.
4. The method in Claim 3, whereby the polyvinylpyrrolidone-based polymer contains copolymers containing polyvinylpyrrolidone, derivatives of polyvinylpyrrolidone and their  
20 copolymers.
5. The method in one of Claims 1 to 4, whereby the polymer substrate is made of a polymer material chosen from polyethylene, polypropylene, polyvinyl chloride, polycarbonate, SEBS or polyurethane or mixtures thereof.  
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6. The method in one of Claims 1 to 5, whereby the polymer substrate is a dialyser, hose, catheter, stent or urinary catheter or at least part of one.
7. The method in one of Claims 1 to 6, whereby the non-toxic photoinitiator compound  
30 is chosen from the group composed of flavins, flavones, flavonoids and their derivatives, as well as nicotinic acid amide and its derivatives and thioxanthone.
8. The method in Claim 7, whereby the initiator compound is riboflavin, morin, rutin or a mixture thereof.

9. The method in Claim 7, whereby the initiator compound is nicotinic acid amide.

10. The method in Claim 7, whereby the initiator compound is thioxanthone.

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11. A polymer substrate that has a polymer hydrogel layer immobilized, at least in areas on its surface, whereby the hydrogel layer also contains at least one non-toxic photoinitiator compound.

10 12. The polymer substrate in Claim 11, whereby the non-toxic photoinitiator compound is chosen from the group composed of flavins, flavones, flavonoids and their derivatives, as well as nicotinic acid and its derivatives and thioxanthone.

13. The polymer substrate in Claim 12, whereby the polymer substrate is made of a  
15 polymer material, chosen from polyethylene, polypropylene, polyvinyl chloride, polycarbonate, SEBS or polyurethane or mixtures thereof.

14. The polymer substrate in Claim 12 or 13, whereby the polymer substrate is a dialyser, hose, catheter, stent or urinary catheter or at least part of one.